



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/734,008

12/10/2003

Richard D. Bunch

HSJ9-2003-218-US1

9413

23980

7590

11/17/2009

MINTZ, LEVIN, COHN, FERRIS, GLOVSKY AND POPEO, P.C

5 Palo Alto Square - 6th Floor

3000 El Camino Real

PALO ALTO, CA 94306-2155

EXAMINER

GOFF II, JOHN L

ART UNIT

PAPER NUMBER

1791

MAIL DATE

DELIVERY MODE

11/17/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/734,008	Applicant(s) BUNCH ET AL.	
	Examiner John L. Goff	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5,8-11,13-15,17-20,24-28 and 30-36 is/are pending in the application.
- 4a) Of the above claim(s) 27,28 and 30-34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,8-11,13-15,17-20,24-26,35 and 36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/16/09 has been entered.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 2-4 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
5. Claims 2-4 recite the limitation "the resist adhesive resin" in line 1. There is insufficient antecedent basis for this limitation in the claim.
6. Claim 20 recites the limitation "the resist adhesive resin" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

7. Claims 19, 20, 24-26, 35, and 36 are rejected under 35 U.S.C. 102(b) as anticipated by LeBlanc (U.S. Patent 3,582,516).

LeBlanc discloses a method of producing an improved adhesive composition, e.g. a varnish, consisting of adding acetone, i.e. a solvent, to a novolac resin which adhesive is used in for example inorganic bonding applications as the adhesive has improved properties such as impact and flexural strength when cured/thermoset, easy to prepare, and low in cost (Column 1, lines 60-65 and Column 2, lines 1-26 and Column 9, lines 56-59 and Column 14, lines 52-60 and Claim 9).

The adhesive taught by LeBlanc is considered “an adhesive composition having improved adhesive characteristics” and to include solvent “in a manner sufficient to produce said adhesive composition with improved adhesive characteristics”. It is noted there is no specific requirement in the claims for any specific improved adhesive characteristics or any particular amount of solvent other than the characteristics are obtained by the addition of solvent wherein because the adhesive taught by LeBlanc includes a solvent added thereto as required by the claims it is thus “said adhesive composition with improved adhesive characteristics”.

Regarding the limitation “for use in bonding a ceramic material to a manufacturing tool” as stated in the preamble, it is noted this limitation is merely the intended use of the produced composition and is given little weight to further limit the scope of the claims as no further structural limitations are required, it being noted the adhesive composition produced by LeBlanc is capable of being used in this manner (See MPEP 2111.02).

Art Unit: 1791

Regarding the limitation of “wherein the one or more solvents has a boiling point in the range of about 30 °C to about 70 °C”, LeBlanc teaches the solvent consists of acetone which is a solvent having a boiling point in the claimed range.

Regarding claim 20, LeBlanc teaches the novolac resin is present in an amount of about 30 wt.% to about 80 wt.% (Claim 9).

Regarding claims 35 and 36, the Office is unable to test if the adhesive composition taught by LeBlanc results in an increase in yield of about 75% or more over a resist composition that includes a novolac resin and a photosensitizer. However, because the adhesive composition taught by LeBlanc consists of the claimed materials one of ordinary skill in the art would readily expect the adhesive composition taught by LeBlanc to inherently result in the improvement absent a specific showing otherwise.

Claim Rejections - 35 USC § 103

8. Claims 15, 17, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ruiz (U.S. Patent 5,406,694) in view of LeBlanc.

Ruiz discloses a method of manufacturing a slider for a hard disk drive including providing a ceramic chunk (40 of Figure 6), i.e. a ceramic material, from a wafer and bonding the air bearing side of the ceramic chunk to a ceramic manufacturing tool (50 of Figure 6) through a layer of thermoset adhesive (Figure 6 and Column 1, lines 6-8 and Column 5, lines 35-38 and Column 7, lines 38-49). Ruiz does not specifically describe using any particular adhesive. LeBlanc discloses an improved adhesive composition, e.g. a varnish, consisting of adding acetone, i.e. a solvent, to a novolac resin which adhesive is used in for example inorganic

Art Unit: 1791

bonding applications as the adhesive has improved properties such as impact and flexural strength when cured/thermoset, easy to prepare, and low in cost. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the thermoset adhesive in Ruiz the thermoset adhesive composition used for bonding inorganic materials taught by LeBlanc having improved properties such as impact and flexural strength when cured/thermoset, easy to prepare, and low in cost.

Regarding the limitation of “wherein the one or more solvents has a boiling point in the range of about 30 °C to about 70 °C”, LeBlanc teaches the solvent consists of acetone which is a solvent having a boiling point in the claimed range.

Regarding the limitation of a “de-bondable adhesive composition”, applicants specification states, “Similarly, the term “debondable” as in “debondable adhesive” refers to an adhesive that is capable of being completely removed from the surfaces of substrates bonded thereby without damage to the substrates.”. Applicants specification further demonstrates a number of adhesives all of which are debondable such as cyanoacrylate, i.e. super glue, and a traditional resist including novolac resin. As applicants specification demonstrates that adhesive compositions whose principal component is a novolac resin is debondable such that the adhesive taught by LeBlanc having the same principal component is considered debondable. Furthermore, it is noted the claims do not require a step of debonding the adhesive, the Office is unequipped to test the adhesive for such a property, and any number of adhesives may be considered debondable including adhesives such as super glue an adhesive readily recognized to one of ordinary skill in the art as permanent and not a temporary adhesive such that absent a clear and sufficient showing the adhesive composition taught by LeBlanc is considered debondable.

Art Unit: 1791

9. Claims 1, 2-5, 8-10, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ruiz and LeBlanc as applied above, and further in view of Tanaka et al. (U.S. Patent 4,376,194).

Ruiz and LeBlanc as applied above teach all of the limitations in the claims except for a specific teaching of applying the adhesive composition to bond the ceramic chunk to the ceramic manufacturing tool by applying the adhesive composition to the ceramic chunk, contacting the ceramic manufacturing tool with the adhesive composition on the surface of the ceramic chunk to bond the tool and chunk, and subjecting the adhesive composition located between the ceramic chunk and ceramic tool to conditions effective to remove the solvent from the adhesive. Ruiz is not limited to any particular method of applying the adhesive composition. LeBlanc simply teaches the adhesive composition is cured/thermoset by the application of heat at 180 °F considered conditions effective to substantially remove the acetone. Tanaka is exemplary of the well known method of applying an adhesive composition including a solvent to bond two substrates by applying the adhesive composition to a first substrate, contacting a second substrate with the adhesive composition on the surface of the first substrate to bond the first and second substrates, and subjecting the adhesive composition located between the substrates to conditions effective to remove the solvent from the adhesive (Column 8, lines 46-52). It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the adhesive composition as taught by Ruiz as modified by LeBlanc by applying the adhesive composition to the ceramic chunk, contacting the ceramic manufacturing tool with the adhesive composition on the surface of the ceramic chunk to bond the tool and chunk, and subjecting the adhesive composition located between the ceramic chunk and ceramic manufacturing tool to

Art Unit: 1791

conditions effective to remove the solvent from the adhesive as is the well known technique in the art for applying adhesives of the type used in Ruiz as modified by LeBlanc as evidenced by Tanaka.

Regarding claims 2-4, LeBlanc teaches the novolac resin is present in an amount of about 30 wt.% to about 80 wt.% wherein absent an unexpected result it would have been obvious to one of ordinary skill in the art to use as the wt.% novolac resin any of the values within the claimed range.

Regarding claim 5, Ruiz as modified by LeBlanc includes only acetone solvent, i.e. the adhesive composition excludes solvents having boiling points above about 80 °C.

10. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ruiz, LeBlanc, and Tanaka as applied to claims 1, 2-5, 8-10, 13, and 14 above, and further in view of Schafer (U.S. Patent 5,421,884).

Ruiz, LeBlanc, and Tanaka as applied above teach all of the limitations in claim 11 except for a specific teaching of using vacuum conditions to remove the solvent from between the ceramic chunk and ceramic manufacturing tool. Schafer is exemplary of the known technique for removing solvent from an adhesive in the microelectronics industry by applying vacuum and heat conditions to the adhesive to remove substantially all air bubbles and solvent inclusions within the adhesive (Column 1, lines 29-34 and Column 3, lines 30-39). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include in Ruiz as modified by LeBlanc and Tanaka vacuum conditions to remove the solvent from the adhesive as shown for example by Schafer to remove substantially all air bubbles and solvent inclusions within the adhesive.

Response to Arguments

11. Applicant's arguments with respect to claims 1-5, 8-11, 13-15, 17-20, 24-26, 35, and 36 have been considered but are moot in view of the new ground(s) of rejection.

In view of applicants amendment the previous rejections over Uetani et al. (U.S. Patent Application Publication 2001/0026905) and Teiichi et al. (WO 01/60938 with U.S. Patent Application Publication 2003/0069331 used as a translation) are withdrawn.

Applicants argue, "LeBlanc teaches a composition that in addition to the novolac resin and solvent, includes additional materials such as a halo epoxyalkate. Applicants contend that LeBlanc is not anticipatory because the reference fails to teach methods of producing an adhesive composition in which the composition *consists of* one or more novolac resins and one or more solvents having a boiling point in the range of about 30° C to about 70° C as in present claim 19."

LeBlanc reacts a novolac resin with a haloepoxyalkane to form an improved novolac resin. A solvent such as acetone is then added to the improved novolac resin to form a varnish useful as an adhesive. The improved novolac resin taught by LeBlanc is not excluded from the claims as the improved novolac resin is "one or more novolac resins".

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John L. Goff** whose telephone number is **(571)272-1216**. The examiner can normally be reached on M-F (7:15 AM - 3:45 PM).

Art Unit: 1791

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John L. Goff/
Primary Examiner, Art Unit 1791